

Fig. 2

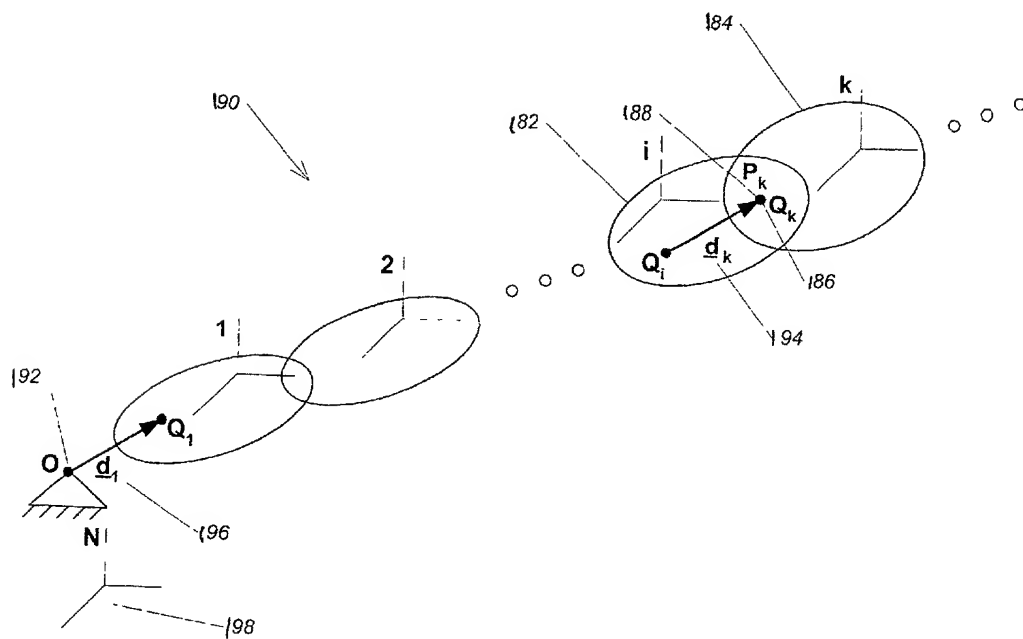


Fig. 3

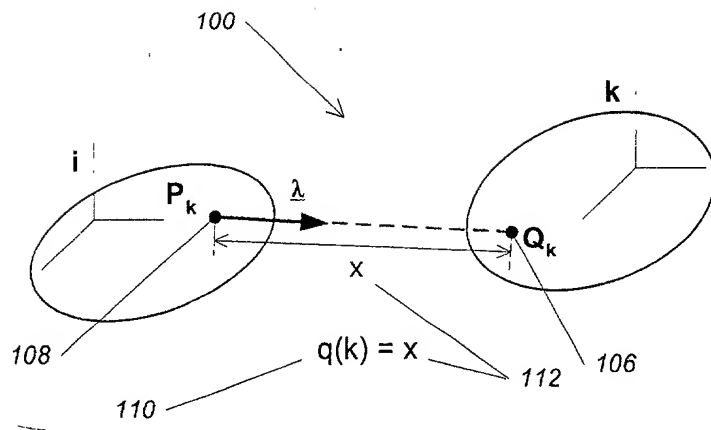


Fig. 4A

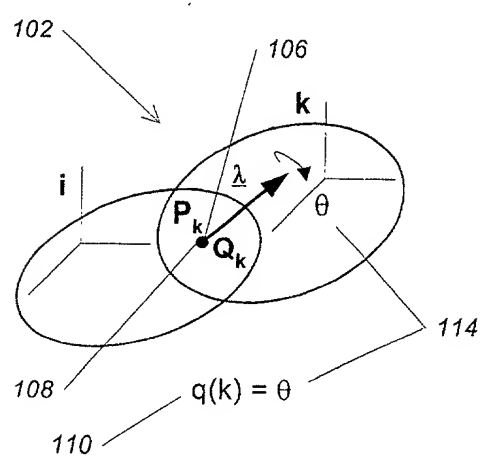


Fig. 4B

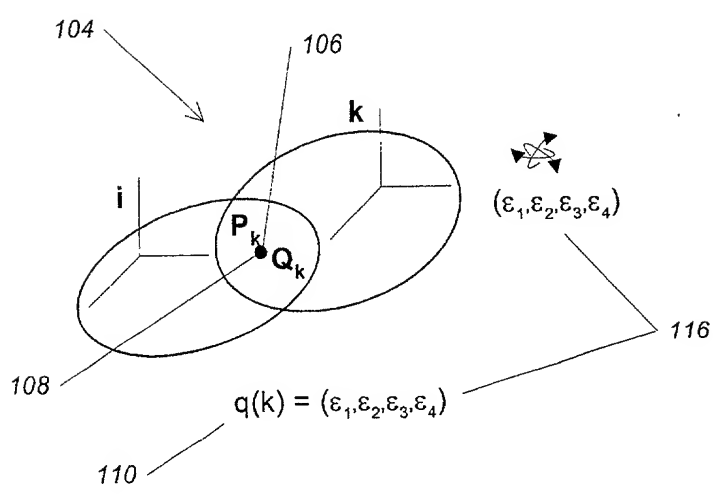
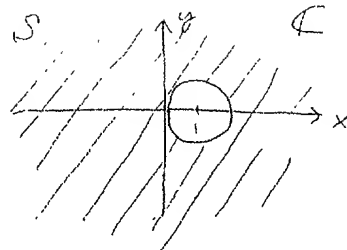


Fig. 4C

Implicit Euler

$$R(z) = \frac{1}{1-z}$$



$S \supset C^-$
A-stable

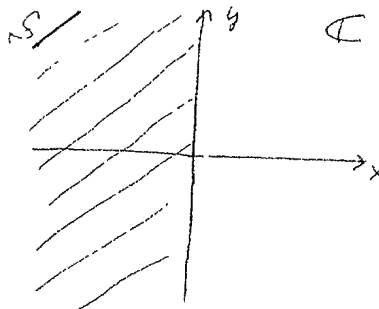
Fig. 5A

$$\lim_{z \rightarrow \infty} R(z) = 0$$

L-stable

Implicit Midpoint

$$R(z) = \frac{1 + z/2}{1 - z/2}$$



$S \supset C^-$
A-stable

Fig. 5B

$$\lim_{z \rightarrow \infty} R(z) \neq 0$$

NOT L-stable

Radau 5

$$R(z) = \frac{1 + 2z/5 + z^2/10}{1 - 3z/5 + 3z^2/20 - z^3/60}$$

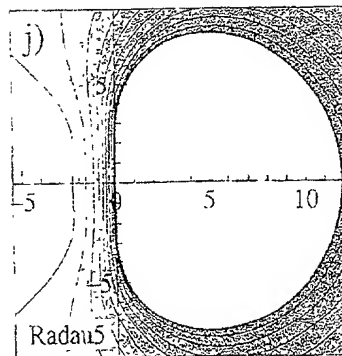
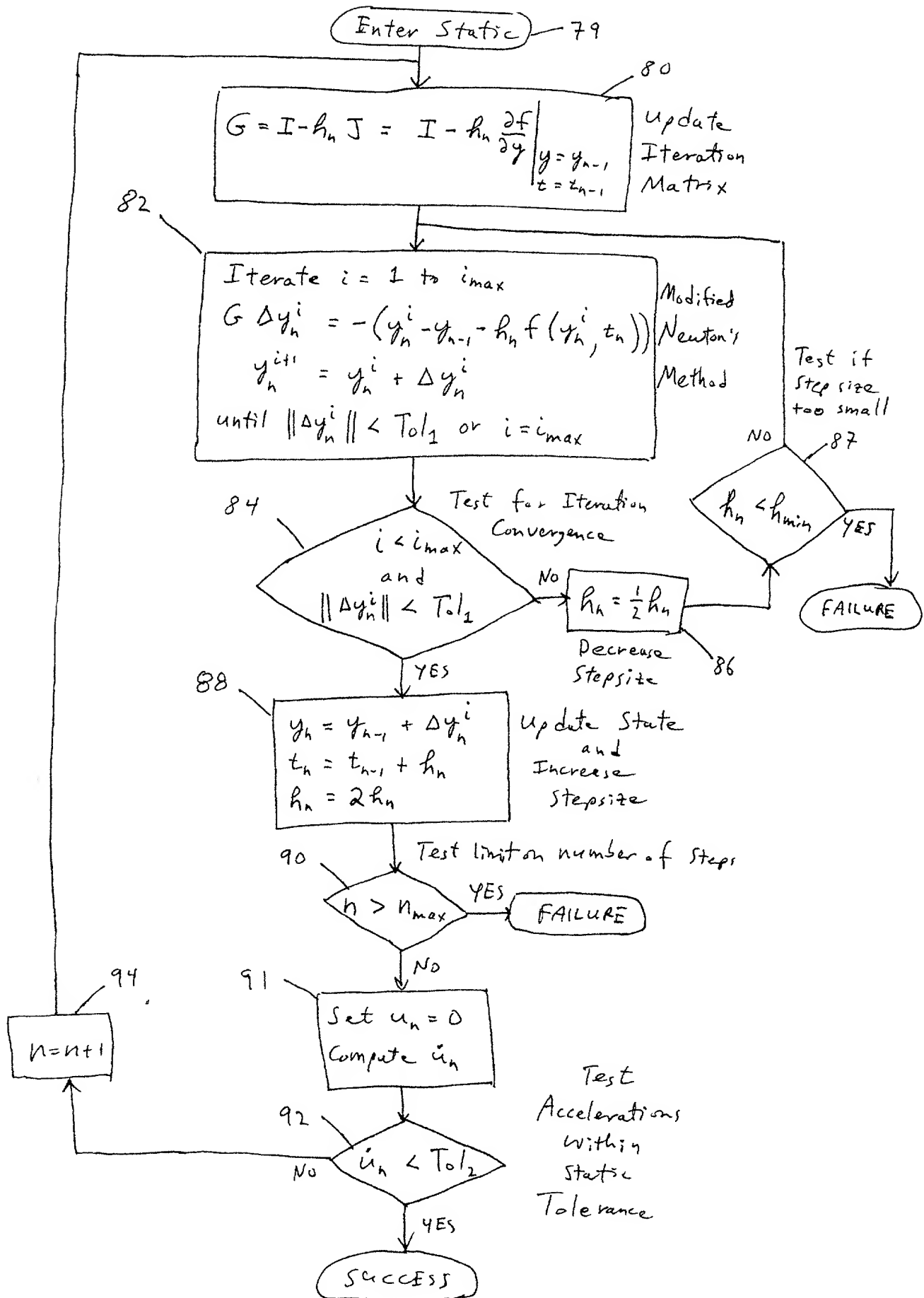


Fig. 5C

$$\lim_{z \rightarrow \infty} R(z) = 0$$

L-stable



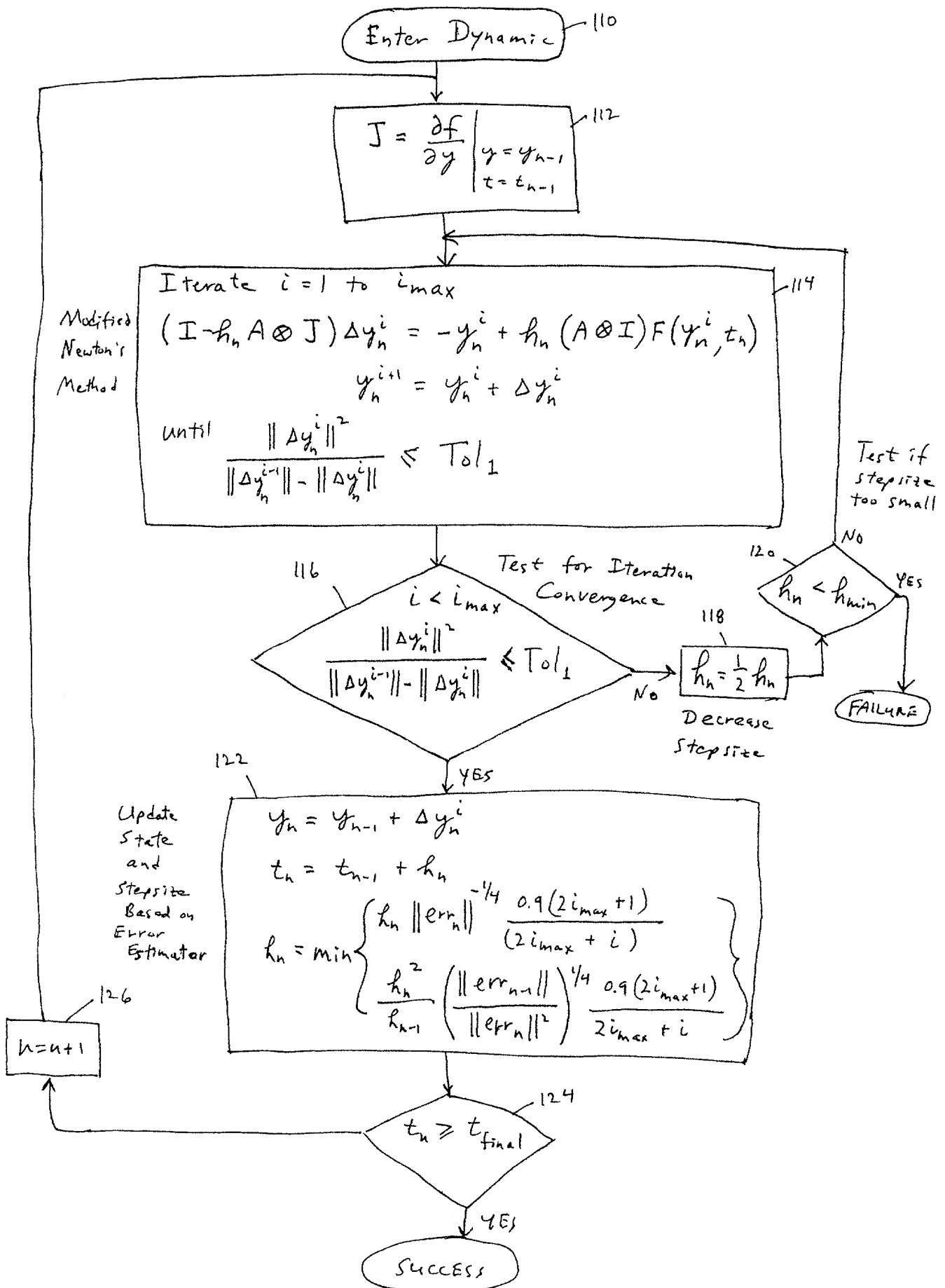


Fig. 7

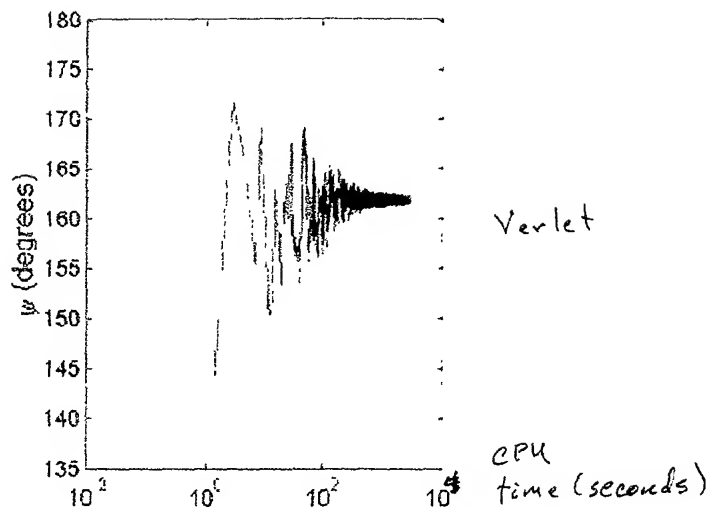


Fig. 9A

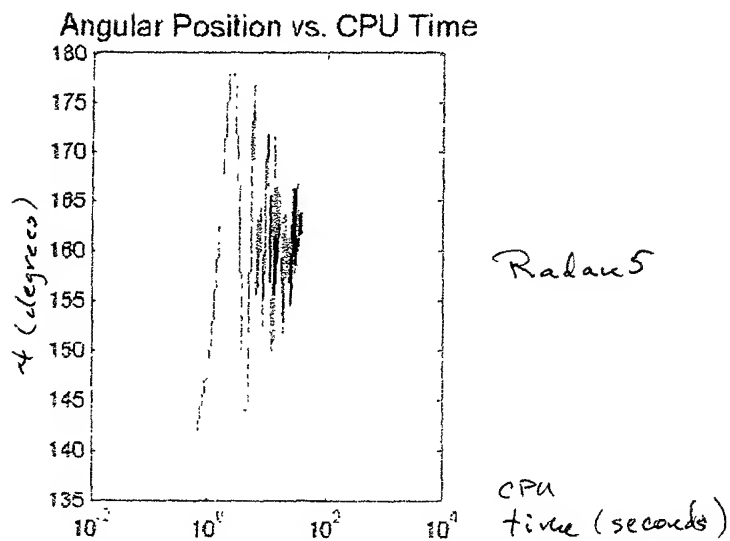
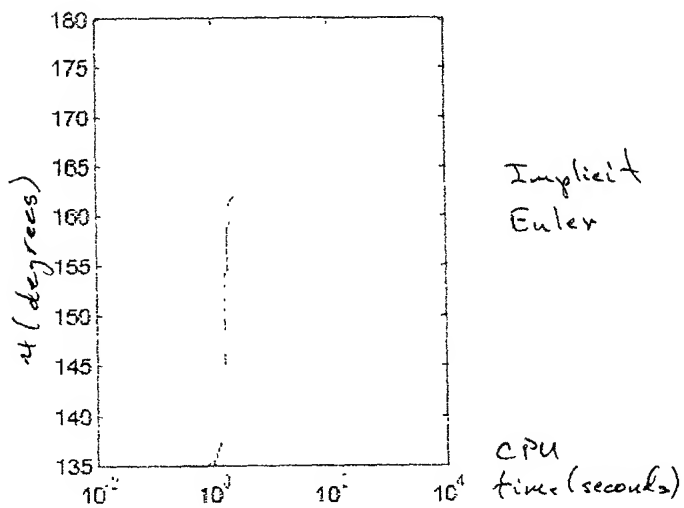
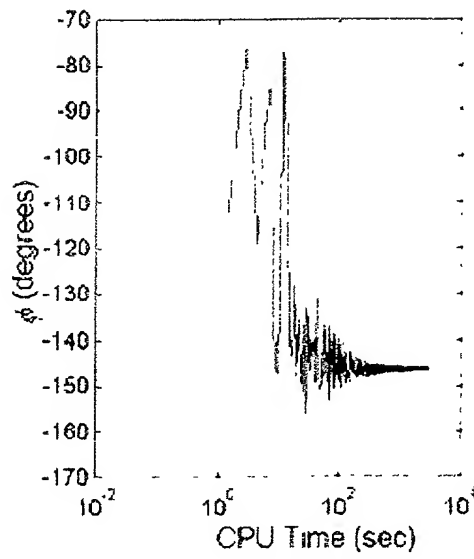


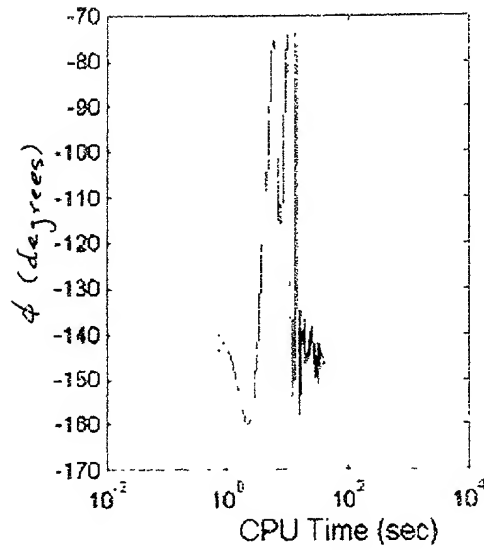
Fig. 9B





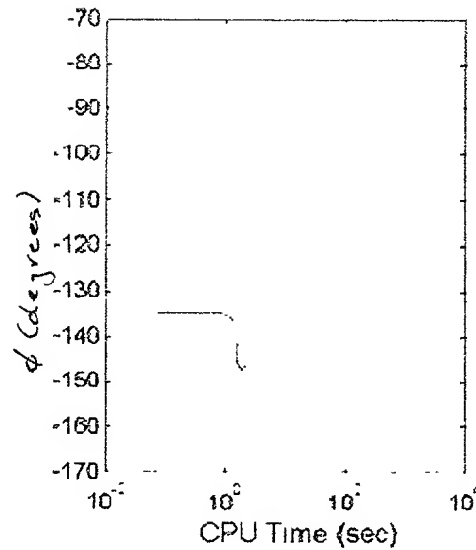
Verlet

Fig. 9D



Radau5

Fig. 9E



Implicit
Euler

